

REMARKS

The Applicants respectfully request that the Examiner consider the reasons outlined herein, and allow the claims currently pending in this application.

5 The original application contained two (2) independent claims and sixteen (16) total claims. As amended the application contains three (3) independent claims and twenty-four (24) total claims. Therefore, excess claim fees are due and are attached with this Response.

10 **Claim Objections**

On page 2 of the Office Action, the Examiner objected to Claims 10 and 11 because of informalities. Specifically, the Examiner stated that the applicant is claiming the product (a device) including a method (i.e. a process) of fabricating a grating within a fiber laser by irradiating a mask with electromagnetic radiation. Thus, the Examiner
15 concluded, claims 10 and 11 are “product-by-process” claims. The Examiner pointed out that in spite of the fact that a product-by-process claim may recite only process limitations, it is the product which is covered by the claim and not the recited process. Further, the Examiner stated that the patentability of a claim to a product does not rest
20 merely on a difference in the method by which the product is made, but rather, the product itself, which must be new and unobvious. As such, the Examiner stated, no patentable weight has been given to the process recited in Claims 10 and 11.

The Applicants have provided arguments below as to why the product itself is new and unobvious. Thus, the Applicants respectfully request that the Examiner
25 withdraw the objection to Claims 10 and 11.

Rejections – 35 USC 103

Claim 1

On page 2 of the Office Action, the Examiner rejected Claims 1-4, 6-12, 14-16 under 35 U.S.C. 103 as being unpatentable over the Stardubov et al. patent (US Pat. No.
30 6,344,298) in view of the Stepanov et al. patent (US Pat. No. 6,272,165) and the Anderson et al. patent (US Pat. No. 5,327,515). Specifically, the Examiner stated that it

would have been obvious to a person having ordinary skill in the art at the time of the invention was made to fabricate a grating within the ring fiber laser of Stepanov et al., using the mask of Stardubov et al. because the mask has a circumferential pattern which would allow forming a grating within a curved fiber laser and the formed grating would
5 allow the fiber laser to operate in a single longitudinal mode.

As noted by the MPEP 2143.03, to establish a *prima facie* case of obviousness, all the claim limitations must be taught or suggested by the prior art. Applicant respectfully asserts that the combination of the invention of Stardubov et al. with the inventions of Stepanov et al. and Anderson et al. does not teach all the claim limitations of independent
10 Claim 1.

Claim 1 claims “A method for generating single polarization output from a fiber laser comprising the steps of using a non-destructive technique to fabricate a Bragg grating within the fiber laser and forming the fiber laser at the grating position into a tight curve.”

15 As stated in Claim 1, what is being claimed is a “method for generating single polarization output from a fiber laser.” The Applicants are unaware where in any of the references cited by the Examiner the inventions disclosed therein provide for generating a single polarization output from a fiber laser.

For example, the Starodubov et al. patent teaches a mask for forming gratings in
20 an optical fiber having a pattern that is circumferentially varying about a central axis or region. The Applicants are unaware where in this reference there is any mention of being able to generate a single polarization output from the fiber laser. Further, as stated in col. 5, lines 44-45, “The spiral coiling controls the chirp of the fiber grating.” Thus, the fiber is coiled to manufacture the grating, and the Applicants are unaware where in
25 the Starodubov et al. patent is taught that the fiber remains coiled and is used for generating single polarization output from a fiber laser.

Further, the Stepanov et al. patent teaches a single frequency distributed feedback ring laser, see the title and col. 1, lines 1-2; whereas, Claim 1 of the present application claims generating a single polarization. The Applicants do not understand how the
30 Examiner is interpreting the teachings of a single frequency in the Stepanov et al. patent to mean a single polarization as is claimed in Claim 1.

Additionally, just like the Starodubov et al. patent, the Anderson et al. patent is concerned with making Bragg gratings in glass optical fibers and the Applicants are unaware where in the Anderson et al. patent the Examiner believes that the limitation of generating single polarization output from a fiber laser is taught, disclosed or suggested.

5 Applicants are unaware where, in any of the patents of Starodubov et al., Stepanov et al., or Anderson et al., the element of “generating a single polarization” as is claimed in Claim 1 is taught, disclosed or suggested. Applicants respectfully request that the Examiner point out where in the cited prior art this limitation is believed to be taught, disclosed or suggested.

10 Given that the Applicants are uncertain where in the cited prior art the Examiner believes each and every element of Claim 1 is taught, disclosed or suggested, the Applicants respectfully request that the Examiner withdraw the rejection of Claim 1. Further, the Applicants submit that the limitations discussed above are not taught, disclosed or suggested by any of the cited prior art. Thus, the Applicants submit that
15 Claim 1 contains patentable subject matter and should be allowed. As such, the Applicants further submit that Claims 2-8 are also patentable at least through their dependence upon an allowable base claim.

Claim 9

20 The same arguments presented above in favor of the patentability of Claim 1 can also be applied to Claim 9. As such, the Applicants submit that Claim 9 is also patentable over the cited prior art. Therefore, the Applicants submit that Claim 9 contains patentable subject matter and should be allowed. As such, the Applicants further submit that Claims 9-16 are also patentable at least through their dependence upon
25 an allowable base claim.

Patentability of New Claims

New Claim 17, claims, in part, “increasing a differential loss between two polarizations, wherein the act of increasing comprises the act of tightly looping the Bragg
30 grating.” As previously discussed with reference to Claim 1, the Applicants are unaware where in the prior art generating a single polarization is taught, disclosed or suggested.

Similarly, the Applicants submit that the prior art cited by the does not teach, disclose or suggest “increasing a differential loss between two polarizations, wherein the act of increasing comprises the act of tightly looping the Bragg grating” as is claimed in Claim 17.

- 5 New Claims 18 – 24 are similar to original Claims 2-8. As stated above, the Applicants submit that Claim 17 contains patentable subject matter and should be allowed. Further, the Applicants submit that Claims 18-24 are also patentable at least through their dependence upon an allowable base claim.

Concluding Remarks:

In view of the foregoing, it is respectfully submitted that all now pending claims 1-24 are in allowable condition. Reconsideration is respectfully requested. Accordingly, early allowance and issuance of this application is respectfully requested. Should the Examiner have any questions regarding this response or need any additional information, please contact the undersigned at (310) 589-8158.

The Commissioner is authorized to charge any additional fees which may be required or credit overpayment to deposit account no. 50-2691. In particular, if this response is not timely filed, the Commissioner is authorized to treat this response as including a petition to extend the time period pursuant to 37 CFR 1.136(a) requesting an extension of time of the number of months necessary to make this response timely filed and the petition fee due in connection therewith may be charged to deposit account no. 50-2691.

Respectfully submitted,

Date

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